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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,078	03/30/2004	Kazuyuki Tohji	12065-0012	3014

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CLARK & BRODY  
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WASHINGTON, DC 20005

EXAMINER
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SHEEHAN, JOHN P

ART UNIT	PAPER NUMBER
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1793

MAIL DATE	DELIVERY MODE
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04/17/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/812,078	<b>Applicant(s)</b> TOHJI, KAZUYUKI	
	<b>Examiner</b> John P. Sheehan	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of Previous Rejections***

1. The status of the rejections set forth in the Office action mailed March 23, 2007 is as follows.

I. The rejection claims 1 to 3 based on Sun (US Patent Application Publication has been overcome by applicants' arguments and amendments to the claims submitted January 22, 2008.

### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Interpretation***

3. In claims 1 to 3, the subscript Y is recited as "Y represents 0.7 ~ 1.0" (claim 1, line 7). When Y = 1.0 then the subscript 1-Y equals 0. In view of this, the claims encompass embodiments wherein the element Z is not present and the claimed metal composition is a binary metal such as, FePt.

4. Claim 1 recites, "a volumetric ratio of ferromagnetic structure (face-centered tetragonal ratio)...in the range of 10 ~ 100%" (claim 1, lines 9 and 10). The Examiner

has interpreted this to mean that the face-centered tetragonal phase structure accounts for 10 to 100% of the volume of the claimed powder.

***Claim Rejections - 35 USC § 102/103***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 to 3 and 12 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Diamon et al. (Diamon '509, PCT Publication No. WO 02/062509, cited by the Examiner).

NOTE: In the following discussion regarding Diamon '509 the Examiner will refer to sections of US Patent 6,875,253 cited in this Office action and which is the English language equivalent of Diamon '509.

Diamon '509 teaches magnetic particles having a face centered tetragonal phase structure and compositions that are encompassed by the composition recited in the instant claims (column 5, lines 8 to 34). Diamon '509 teaches that the disclosed particles have a particle size of 1 to 50 nm and preferably 1 to 10 nm, which is

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encompassed by the instant claims (column 6, lines 1 to 5). Daimon discloses that prior to heat treatment the powder can be coated with an organic protective coating that is carbonized during the heat treatment. This carbonized coating prevents sintering during the heat treatment and maintains the particles size of 1 to 50 nm (column 10, lines 59 to 67).

The claims and the reference differ in that reference is silent with respect to the volume percent of the face centered tetragonal phase, the magnetic properties, the fluidity of the disclosed powder and ability to be oriented in a magnetic field recited in the instant claims.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the nanoparticles taught by each of the references have compositions and phase structures that are encompassed by the instant claims. In view of this, the powders taught by each of the references would be expected to possess all the same properties as recited in the instant claims, including the claimed volumetric ratio of the face centered tetragonal phase and the magnetic properties, *In re Best*, 195 USPQ, 430 and MPEP 2112.01.

“Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, *In re Best*, 195 USPQ 430, 433 (CCPA 1977). ‘When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.’ *In re Spada*, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 195 USPQ 430, 433 (CCPA 1977).” (emphasis added by the Examiner), see MPEP 2112.01.

Regarding the fluidity and ability to be oriented in a magnetic field, Daimon discloses that prior to heat treatment the powder can be coated with an organic protective coating that is carbonized during the heat treatment. This carbonized coating prevents sintering during the heat treatment and maintains the particles size of 1 to 50 nm (column 10, lines 59 to 67). In view of the fact that the particles do not sinter, there is a reasonable expectation that the particles have fluidity and thus the ability to be oriented in a magnetic field as recited in the instant claims.

### ***Response to Arguments***

8. Applicant's arguments filed January 22, 2008 have been fully considered but they are not persuasive.

Applicants' arguments regarding the fact that Daimon's process employs a heat treatment step to produce the face-centered tetragonal (fct) structure while the applicants' disclosed process used to make the instantly claimed powder does not employ such a heat treatment step are not persuasive. Other than referring to the discussion of the prior art in the instant application (paragraphs (0007) and (0012) of applicants' published application No. US 2005/0051241), applicants have not provided any evidence to support their position that Daimon's heat treatment step would cause the nanoparticles to stick to the substrate and not have the claimed fluidity recited in the instant claims. "It is well settled that unexpected results must be established by factual evidence. Mere argument or conclusory statements in the specification do not suffice." In re Deblauwe, 222 USPQ 191, 196 (Fed. Cir. 1984). Mere lawyer's arguments and

conclusory statements in the specification, unsupported by objective evidence, are insufficient to establish unexpected results." In re Wood, Whittaker, Stirling and Ohta, 199 USPQ 137, 140 (CCPA 1978). Applicants' arguments cannot take the place of evidence in the record, MPEP 716.01(c)II. Further, Daimon discloses that prior to heat treatment the powder can be coated with an organic protective coating that is carbonized during the heat treatment. This carbonized coating prevents sintering during the heat treatment and maintains the particles size of 1 to 50 nm (column 10, lines 59 to 67). In view of the fact that the particles do not sinter, there is a reasonable expectation that the particles have fluidity and the ability to be oriented in a magnetic field as recited in the instant claims.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (7:30-5:00) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John P. Sheehan/  
Primary Examiner  
Art Unit 1793

jps



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